THE USE OF FISCAL INSTRUMENTS IN SUSTAINABLE BUILDING POLICIES

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Abstract

Although progressive government guidelines and knowledge about sustainable building exist, sustainability measures are not adopted in large scale. Several barriers have been identified, especially the perceived costs of implementing environmental management and the lack of market demand. The choice of fiscal instruments is an important issue in sustainable building policies. This paper presents an analysis of economic measures that are currently used to support sustainable building in the European Union and accession countries, indicating the areas where policy instruments are either focussed or lacking. The research is based on the national progress reports of the 3rd European Ministers conference on sustainable housing in 2002. The results indicate that environmental taxes and subsidies are used in the EU and the accession countries, but that they have had a low impact on the building sector. An examination of the developments since 1996 shows that apart from energy initiatives resulting from the Kyoto Protocol, the lack of a strong driving force has kept progress slow. Conclusions are based on the analysis findings – the low impact of taxation on building and the narrow focus of subsidies. Finally, possibilities to benefit European experiences in the Australian context are discussed.

Keywords: sustainable building, policy instruments, fiscal measure, environmental tax, subsidy programme, energy efficiency.

1. Introduction

The building sector accounts for 25-40% of the final energy consumption in OECD countries, space heating being the largest proportion of energy consumption in both residential and commercial buildings [1]. The Kyoto Protocol has increased pressure on governments to establish strategies aimed at reducing CO₂ emissions. Policies to regulate and promote sustainable housing have been developed across Europe, using instruments ranging from mandatory norms to guidelines that can be applied voluntarily. Despite the available knowledge and instruments, a gap exists between government policy and practice, where sustainable housing has been adapted slowly. Several barriers at the policy and strategy level have been identified, especially the perceived costs of implementing environmental management, the lack of market demand and the poor capture of benefits [2]. Consequently, sustainability measures are not adopted in large scale. Incentives are needed to embed environmental measures into normal practice [3].

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This paper presents economic instruments that are presently used to encourage sustainable housing in the EU member states and the EU accession countries in relation to environmental effectiveness, economic effectiveness, equity, administrative feasibility and acceptability [4]. This paper focuses on housing, because it is the largest sector of the building stock. Furthermore, when new housing production in the EU is 1.9 million units per year, or approximately 1% of the building stock, the real potential for sustainable building and CO$_2$ reduction lies in managing the existing stock of residential buildings [5, 6]. An affective policy must also reflect different incentives of tenants and owner-occupiers. If an investment to improve environmental performance reduces operating costs but has high start up costs, it may not be taken by the tenants who think they will move or if the investment leads to increase in rents [7]. The difference between privately-owned and rented housing is recognised in this study, but the policy measures are described without making a distinction between their implementation in different ownership sectors.

This article is based on the country progress reports of the 3$^{rd}$ European Ministers conference on sustainable housing in Belgium in 2002 [8]. The meeting aimed to develop the idea of sustainable development in housing policies and to identify areas of common interest at a European level. All EU countries and nine EU accession countries provided national progress reports addressing the existing policy context and policy instruments. The national reports for the 1$^{st}$ European Ministers conference on sustainable housing in Copenhagen in 1996, and the 2$^{nd}$ European Ministers conference on sustainable housing in The Hague in 1997, were used as a reference source for the present study to examine policy developments since 1996 [9, 10].

2. Environmental taxes for sustainable building

The OECD countries have accepted the polluter-pays principle (PPP) where they agree to conduct their pollution-control policies so that the property rights lie with the sufferers. According to the polluter-pays principle, the polluters are taxed rather than the sufferers being subsidised. The state, in theory, uses tax revenue to benefit the citizens [11]. An examination of the national progress reports shows that the Environmental Tax Reform that aims at shifting taxes from labour onto the environment has been implemented in most European countries, e.g. in the Netherlands and Germany. However, while pollution and resource tax revenues have grown, they still contribute a very small share and the impact of environmental taxes in practice is still low [12]. For example, despite increases in taxation from 1985 to 2001, energy prices for most fuels dropped and the overall demand for energy increased [13]. Furthermore, current environmental tax measures are only indirectly related to buildings in terms of energy and CO$_2$ costs, but they do not set targets for the construction sector in particular. A number of EU member states have introduced housing-related tax measures. The Regulatory Energy Tax (REB) was applied to Dutch households in 2001 that had to pay a third more for their energy. A research shows, however, that only half of the population is aware of the Regulatory Energy Tax and 2% take it into account in the use of electricity [6]. Another Dutch policy measure, the landfill tax has reduced the amount of waste going to landfill from 49.7% in 1985 to 4.6% in 2000, and increased recycling from 49.5% in 1985 to 94.3% in 2000 [1]. However, households have no incentive to reduce the volume of waste generated as they receive no financial benefit from it. Financial savings that result
from their efforts will be spread across all households, and since the number of households is very large, it is dissipated to the point of insignificance. In an incentive-compatible system households would be charged according to the volume of waste they produce for collection. On the other hand, incentive-compatible charges introduce the risk that households would resort to the illegal dumping of waste [11].

Most EU accession countries have introduced taxes that result from environmental damage. In the Baltic countries and Bulgaria, the tax revenue is used for Environmental Investment Funds, according to the recycled-tax principle. However, in Poland, for example, environmental taxes have not yet been introduced. An examination of the country reports shows that in the EU accession countries, there are some building-related environmental taxes. For example, in Bulgaria a discount in the immovable property tax is provided for basic housing with a discount for disabled people, whereas the tax is increased for non-built plots in urban development areas.

Governments can also use Value Added Tax (VAT) to support environmental investments. Some EU countries, such as the UK and France, apply a reduced VAT rate to renovations in order to encourage maintenance of the existing stock, especially in the social housing sector. In France, VAT of 5.5% is combined with the PALULOS subsidy for improvements in existing social housing. The combined overall aid package is worth 22%, or € 13,000 per housing unit as a ceiling. This has enabled improvements to increase energy efficiency to take place [5]. In the UK, the reduced VAT is applied to energy-saving materials.

Many governments are afraid to resort to environmental taxes and other stringent measures in their environmental policy because of the feared political price. Taxation can negatively affect specific sectors of the economy that are relevant to the policymaker or create regional unemployment [14]. However, the position of Germany as a forerunner in energy policy is partly enabled by the eco-tax and the Act on the sale of electricity from renewable energies [15]. The Federal Environment Agency has also studied energy-induced (heat, hot water, electricity) damage related to habitation in Germany. According to their findings, energy-related costs amounted to € 7.7 billion per year, or roughly € 2.6 per square metre of the total housing stock per year. Absolute damage values came to approximately € 21 billion or € 7 per square metre of the total housing stock per year [16]. Thus, the application of the polluter-pays principle would involve passing on all the energy-related costs identified in the study to housing owners and occupants.

3. Financial incentives for sustainable building

A subsidy is a transfer of purchasing power from society to the industrialist or individual conditional on it being spent on the investment [11]. A subsidy can also be described as a negative tax. An examination of the country reports shows that all EU countries have introduced subsidies for sustainable building in some form, focused on energy efficiency. This focus stems from the priorities in national strategies for sustainable building that, both in the EU and the EU accession countries, are focused on energy-related measures in new building, despite the environmental potential that lies in managing the existing stock. In Austria, the promotion scheme for sustainable buildings that has been established by law aims to increase energy efficiency and support market penetration of innovative technologies. Consequently, for example in
the Salzburg area, 66% of all new buildings have been submitted to the promotion scheme and energy efficiency in new buildings has increased by approximately 40% in two years. Few progressive countries, however, have established subsidies covering the wider aspects of sustainable housing like the Green Investment in the Netherlands or Eco-subsidy in Sweden.

None of the EU accession countries have established a system of subsidies for sustainable building in general, but half of them provide incentives and loans to improve energy efficiency in the building stock. For example, in Slovakia there are subsidies to implement energy-efficiency in housing and profitable loans are available for investments in energy efficiency [17]. The countries that do not have any subsidy programs available to support sustainable building are all EU accession countries where the Gross Domestic Product is low, e.g. Bulgaria, or Romania.

In the EU countries research and development is one of the main instruments in promoting sustainability and distributing subsidies. However, despite information dissemination, the implementation of the research results is often limited to demonstration projects rather than adjusted more widely. Recent market researches in the Netherlands and Sweden show that there is no real market demand for sustainable building that is considered to have a negative impact on short-term benefits [18, 19]. When consumers are not interested in investing in environmental measures, subsidies are the main instrument to promote sustainable building by market actors. In the Netherlands 93% of the housing associations indicate that subsidies encourage them to implement environmental measures [2]. The EU accession countries have fewer resources to invest in research than the wealthy EU countries. In economically unstable situations risks are avoided and research and development steps are not taken.

4. Policy developments

An examination of developments in fiscal policy instruments shows that, despite a number of positive developments, the general situation has changed little since 1996 [9]. In 1996, most European countries had not yet formulated a policy plan for sustainable building. In the countries that had policy plans, measures focused on energy-saving in new housing and at the building level. The importance of the existing building stock in energy-saving and the reduction of CO₂ emissions have only recently been recognised politically.

Environmental taxation was not yet widely used as a policy instrument in 1996, and the Ecological Tax Reform had just been introduced in Denmark, Sweden and the Netherlands. In the housing sector, environmental taxes were introduced e.g. for water, CO₂ emissions and gas in Denmark, and for energy in the Netherlands. In 1996, the reduced VAT rate for renovations had already been introduced in some countries, such as Belgium. However, both taxation measures and the reduced VAT rate were only indirectly related to sustainable building.

In 1996, most EU countries had established subsidies for sustainable building, mainly focused on energy savings. France had fiscal allowances to stimulate the use of certain certified products, Germany subsidies for energy and indoor improvements and depreciation on investments in new technology, Austria subsidies for sustainable energy sources and efficient land use. In the EU accession countries there was less scope for subsidies and greater emphasis on regulations instead.
An examination of the national progress reports in 1996, 1997 and 2002 shows that the Kyoto Protocol has been the main driver in stimulating both the EU and EU accession countries to develop national climate policies to achieve the CO\textsubscript{2} reduction targets and that this started even before the EU ratified it. Therefore, progress has focused on energy savings and EU-directives in the EU countries. Lack of motivating factors, feared costs and low market demand have kept the progress in sustainable building policies moderate, despite the amount of subsidies that governments have invested in environmental research and development. It has to be considered, however, that the year 1994 is considered as a culmination in policy-making [9]. The developments would be more striking, therefore, if an earlier year was studied.

The national progress reports show that one main objective of sustainable building policies in the accession countries in 2001, is to bring their current practice in line with European standards. The enlargement process of the EU with 10 new member states in 2004, is often presented as negative and risky from a financial point of view, presents great opportunities at an environmental level which are rarely discussed. The enlargement of the EU can support the accession countries in upgrading their existing building stock, where there is a great capacity to provide environmental benefits. Public funds may not be sufficient regarding the renovation need so financing must be sought for from private-public partnerships and international institutions.

5. Conclusions

Applying the polluter-pays principle that the OECD countries have adopted requires internalising the external costs of environmental protection. Taxes are presumed to achieve the least-cost solution and to provide continuous incentives to search for more cost-effective technologies to improve environmental quality [14]. They provide a source to get financial revenue that can be pointed to environmental programs. However, tax measures need to be applied carefully. A regressive tax on a household’s energy use may encourage people to save energy, but it might place an excessive burden on the poorer households, especially in the social housing sector, and create resistance in the privately-owned housing sector. Furthermore, the taxation does not define the pollution level: despite the costs to the polluters, the aggregate amount of pollution cannot be predicted. It depends on the forces of supply and demand and will be determined by them. The system of taxes requires supervision and can be bureaucratic, due to the time-consuming process, prices should apply for long time period. The allocation conflict can be an implementation barrier: the owner should to make the investment to reduce the operational load of the building, but his motivation is reduced by the fact that the tenant will enjoy the benefits. The use of tax measures depends on the targets: whether the charges are needed for financial purposes or if more complex mechanisms are necessary to affect the behaviour. Complex systems can be more effective, but costly to apply, whereas simply measures seem practical, but not necessary effective. It is essential that the target groups accept the measures that are imposed on them. The acceptability can be increased with information, clear targets and progressive implementation. Environmental taxes and the Ecological Tax Reform are increasingly implemented in Europe. However, the impact of environmental taxes remains low in practice, due to their modest rate. Furthermore, the measures are not directly related to buildings.
An examination of the national progress reports shows that all the EU countries have established subsidies to support environmental improvements in building. However, most subsidies apply to energy savings in new building and only a few countries have established systems where sustainable building is considered more widely. Due to financial restrictions, subsidies are used as a policy instrument in only a few EU accession countries to encourage energy saving. With right allocation, subsidy programs can contribute to the adaptation of sustainable building especially in countries where the concept of sustainable housing is new. However, subsidies have to be financed by general taxes, they do not comply with the polluter pays policy, have the risk of free-riders and can be considered as a barrier to competition.

Furthermore, an important issue in national environmental policies is to ensure that general subsidies do not support unsustainable development. Subsidies continue to distort the energy market in favour of fossil fuels despite the pressures they place on the environment, while there is much less support for renewable sources or energy conservation [13]. In Germany’s environmental assessment report in 2001, the OECD recorded that over 35% of the subsidies in Germany are classified as environmentally harmful. Examples of this can also be seen in the housing sector; there is a need to reform home ownership assistance for housing projects where currently buyers of existing housing receive half of the bonus which is granted for new housing [15].

6. Discussion

In Australia, government is primarily relying on the construction industry to make most of the necessary improvements voluntary [20]. Legislation has been introduced to eliminate the worst practice, but although some governmental financial incentives to promote sustainability in buildings exist, they are small compared to the annual building market, and taxes are not used as a policy instrument. A landfill tax, for example, could effectively reduce the final disposal of construction and demolition waste if the tax rate is set high enough, while approximately 34% of the material going to landfill in Victoria is construction and demolition waste [21].

None of the fiscal instruments are self-policing. Taxes are not automatically paid and regulations are not necessarily obeyed. Therefore, the use of taxes and subsidies has to be backed up by law, a threat of sanctions and a monitoring program. It has to be recognised that implementation and enforcement structures entail compliance costs and efforts to governments for implementation, monitoring and revision. Minimum number of well co-ordinated economic instruments on one sector can avoid overlapping, confusion and minimise implementation costs. Furthermore, it is necessary that fiscal measures are compliance with regulations.

Also in Europe, several governments count on a voluntary approach in their sustainable building policies. Lack of market demand, however, is a continuous challenge to sustainable building. Sustainable building is not possible without the involvement of the industry, but the market’s ability to solve environmental problems is limited and requires government intervention. Pollution control is a conscious social and political process that should not and cannot be left to market forces [11]. Governments face the challenge of stimulating the market demand for sustainable building and making consumption habits more sustainable. They must support sustainable technology and investments in production must be made more attractive by creating a market e.g. using mandatory measures.
References


